DOCUMENT RESUME

ED 093 346 IR 000 833

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|---|---|
| AUTHOR | Pings, Vern M. |
| TITLE | Medical Library Institution Building. Papers and Reports No. 15. |
| INSTITUTION | Kentucky, Ohio, Michigan Regional Medical Library, Detroit, Mich. |
| SPONS AGENCY | National Library of Medicine (DHEW), Bethesda, Md. |
| PUB DATE | Jun 74 |
| NOTE | 34p.; Alberta Brown Lectures in Special Librarianship (Western Michigan University, Kalamazoo, Michigan, May 28, 1974) |
| EDRS PRICE | MF-$0.75 HC-$1.85 PLUS POSTAGE |
| DESCRIPTORS | Change Agents; Federal Aid; Institutional Role; *Interinstitutional Cooperation; Interlibrary Loans; Leadership; *Library Networks; *Medical Libraries; *Organizational Change; *Regional Libraries; Social Change |
| IDENTIFIERS | Kentucky Ohio Michigan Regional Medical Library; National Library of Medicine |

ABSTRACT

The viability of organizational change depends on the gradual institutionalization of innovations. There has been a history of planned social change in medical library organization. Stress was being felt in that library agencies could not meet user expectations. With the Medical Library Assistance Act, the National Library of Medicine (NLM) was authorized to act as a change agent to forge new organizational relationships for medical document delivery. Regional medical libraries (RML) were to be founded and rationalized into a hierarchical system of resources under NLM's guidance. The Kentucky-Ohio-Michigan Regional Medical Library was the first decentralized RML, its purpose being the establishment of new linkages between existing biomedical libraries for the sharing of resources. Types of linkages vary throughout the three-state region, but the data suggests that new communication channels have been established, and that the RML is supportive of change. (Author/SL)

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PAPERS AND REPORTS, NO. 15

# MEDICAL LIBRARY INSTITUTION BUILDING

by
Dr. Vern M. Pings

Alberta Brown Lectures in Special Librarianship

Delivered 28 May 1974 at

Western Michigan University

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*This publication is produced through financial support under Contract No. NIH 71-4711, National Library of Medicine, National Institutes of Health, Department of Health, Education and Welfare.

Detroit
June 1974

## INTRODUCTION

Change is with us whether we want it or not. One way that we have developed to insure that changes resulting from the introduction of new ideology or technology occurs gradually rather than abruptly is through "organization". Even crime gets organized. (1) Perversely, when our society views something as having stability, it becomes a target for some group to organize itself to alter. A counter group soon gets itself formulated to save society from the group that wants to change it. Both groups then operating in a fragile complex social system cause peripheral changes that neither group will recognize as part of its actions or take any responsibility for initiating. On the personal level we have coined new phrases and concepts as participatory management; in local environments we have created new agencies that are designed to coordinate planning of almost any sort from removing technological imperfections to restructuring social values; on a national and international level expert groups have identified themselves to the point where they actually form schools with the academic sanction of universities in claiming that they can teach people how to make events happen somewhat according to a model. (2)

> There are several difficulties in approaching the study of social change. First, one cannot meaningfully isolate the variables or comprehend them simultaneously even in an abstract or global way. For the dependable constant is the fact that change continually occurs as a function of any viable cultural system. Secondly, the quality, tempo, degree and direction of change are irregular and uneven in different institutions within the same social structure; consequently the phenomenal visibilit, of first and second order consequences of any one institutional change varies over time. Finally, our very awareness and images of alternative human futures tend to arouse new expectations which propel the momentum of social change in particular directions. (3)

One of the phenomenon of the growing complexity of our world environment is that change is often brought about through the growth or action of some subsystem of a larger cultural milieu. (4) For example, in April the embargo against Cuba was lifted by the U.S. State Department for Ford, General Motors, and Chrysler in allowing them to export autos from Argentina. (5) Just as oil-producing nations banded together to raise the price of oil, seven banana-producing nations, also in April, increased the export taxes on that product by 4900%. (6) The reason for using these examples is to emphasize that we should not be misled into thinking bureaucratic hierarchies are stable nor equate power with dollars.

The medical library system has undergone change as a social institution. Although I do not propose to report or demonstrate necessary causal factors, I should like to look at this change

1) By preparing a perspective as viewed by the scholars who describe the process of organization and institution building,
2) By examining events that were used to bring about change in our social environments,
3) By examining the factors that have been used to manipulate the environment primarily through the Medical Library Assistance Act, and
4) By discussing the procedures, rules, and devices that were used for document delivery programs in the Kentucky-Ohio-Michigan Regional Medical Library (KOMRML) and examine if there has been change in institutional behavior which in turn would indicate individuals must act differently.

## INSTITUTION BUILDING

Two separate areas of investigation have evolved in the study of social change. The one arose because of our post World War II efforts to influence

the way underdeveloped (or war torn) nations changed without us becoming tainted with the 19th Century label of colonialism. Domestically, the social scientists who attempt to understand and reduce to model form the process of change in complex organizations are often labelled organizational theorists. (7) The theorist working in a foreign country has been identified as an "institution builder". (8) In both cases, the practitioner functions as a change agent by trying to define social objectives either by formulating policies, or blueprints for action, or both. The choice of one particular language or set of labels in preference to another does not add to the power of explanation or description. In other words, the measure of success in accomplishing social change is the result, not the elegance of statements of purpose or logico-mathematical models.

Social Change. In spite of what individual social scientists may wish, the study of social change or institutional building has produced no theory. "The institution building perspective does not explain institutionality as a quality to some other quality or qualities in a regular, determinate (or probablistic) fashion that can be observed." (9) Even though we have to admit that there are entities called institutions through which we function socially, they can be described only with broad and general labels of qualities, relationships, and categories of actions. Empirical referents or quantitative data cannot be delineated in a neat, discrete fashion to allow for a systematic examination and a precise analysis of the intra- and interactions of institutions. This has not prevented social scientists from expressing themselves even if only to state the obvious. What are some of the parameters of social changes in organizations and institutions? (10) First, there must be recognizable differences. This

is not anywhere near as simplistic as it sounds. We can see the same thing from various perspectives and assume we observe something different each time. At the other extreme, a radical change may have occurred, but because of our biases we refuse to recognize the differences. While differences may be physical, the institutional builder is probably most concerned about changes that involve attitudes where the difference implies the giving up of something which previously appeared important for something else. (11) A second parameter is that the differences must be successive in time. Rearrangements of things do not necessarily result in change, but merely another set of differences. If differences are to result in change, they must be successive in time so that at one point a date can be established that an environment is no longer the same as that before the date. If we talk of changing social institutions, this is not to suggest that the institutions be destroyed. In other words, as paradoxical as it sounds when stated, it is easy to comprehend that differences progress in time but continue to occur within a persisting identity of institutions. Organizational change or building must be seen, felt, or in some other way related to some object or entity which persists even though successive differences can be recognized as they occur.

There are other obvious things that we must remind ourselves about when we speak of wanting to cause social change. There must be an area, a place, for there to be change. This area can be, but is rarely confined to, a political boundary. The area may encompass an ethnic group, occupational groups, or whatever constitutes a "community" that has a persisting identity. Another obvious thing is that interaction, motion, and variety is not in

itself a social change. Social life depends upon interaction and motion that is directed toward an identity; without actions and interactions we have a condition of social entropy with no form.

> ...organizations are the products of the interaction between cultural and technological systems. Organizations are established on the basis of some cultural values or belief systems which determine, within very broad limits, what their goals shall be. (12)

Social Stability. So far the words system, organization, and institution have been used as if they were interchangeable. In the perspective developed here, that is not the case. System is a very old word and has been used *before* we had the science of systems analysis to tell us how to draw the interrelations of activities into definite structures and functions. This may be a system, but not necessarily an organization. For the latter to come into existence, there has to be a unit with the specialized function to integrate various behaviors in the system. Somebody has to be designated as being responsible for the organization. (13) Organizations are not necessarily institutions. A group can get together, define some goals, divide up work, create an administrative system, and give itself a name. "Institutionalization is the process by which organizations and procedures acquire validity and stability. The level of institutionalization... can be defined by the adaptability, complexity, autonomy and coherence of its organizations and procedures." (14) As already noted, an institution to be recognized has to have persistence through time. The continuity is not just in material substance or the same set of individuals, but in the form and process it takes and uses to obtain its purposes. How do we know when an institution is no longer viable?

Need for Change. The 19th century physical scientists left us the legacy of determinism. According to this perspective, at any point in time we can, if we know the laws of nature, trace events both backward and for ward in time. The purpose of science is to be able to predict events, and for some, prediction is the only valid basis for determining if a statement is scientific. The quantum physicists dispelled this basis for establishing what is scientific, but we are, nevertheless, still guided by the prejudice of determinism in nature which assures us that there is the means for "finding relatively simple descriptions for complex systems." (15) The present state of our knowledge forces us to admit social systems are capable of developing goals or purposes within themselves to an environment outside themselves and have a quality of contingency in the way they behave. This is distinct from the "necessity" of physical systems which are subservient to natural laws in the way they function. (16) In spite of our inability to comprehend how man has created such artificial phenomena as social institutions, we do make judgments whether an institution is adequate or inadequate.

We know that our social system is unstable when we become aware of stress in ourselves and others with no apparent means to alleviate the stress. Either existing organizations and institutions are malfunctioning or we do not have an appropriate agency to deal with the situation of stress. Difficulties arise when the unexpected appears and when the established perspective fails to serve its intended end. (17) Sometimes we discover only retrospectively and at considerable cost that institutional structures

are incapable of responding as desired. Stresses as they appear one by one may not seem important, but as soon as they begin to overlap and reinforce one another, we find our social system is full of holes and different communication patterns are needed and a new integration is required. (18) At this point we search for explanations and corrective actions for operations, instruments, and processes to apply to our organizations and institutions that will alleviate the stress and produce a stable environment.

Planning for Change. From what has already been said, it should be no surprise if the statement is made that when we try to influence the future of our institutions, (i) we must work with only part of the information we think we need and (ii) we must include ideological assumptions in our planning. How convenient it would be if all the facts that might pertain to the situation needing change were available. Miller has pointed out that in a complex situation with many unknowns or wide ranges of possibilities we are not able to predict with any accuracy because we do not know. If we are ignorant when we make observations, then we acquire a lot of information. But in the situations where variance is small, we usually know in advance what the outcome of our observations will be. In other words, we get little information. (19) Even if we study and acquire a great deal of information, we can only deal with about seven judgments at a time.

> There seems to be some limitation built into us either by learning or by design of our nervous system, a limit that keeps our... capacities in this general range. On the basis of the present evidence it seems safe to say that we possess a finite and rather small capacity for making... judgments and that this capacity does not vary a great deal from one simple sensory attribute to another. (20)

When it comes to social planning with complex organizations, there are (or should be if good work has been done) several options for action available. This requires that choices be made and the problem gets compounded because in setting priorities we may have to deal with objectives which compete with each other even though separately they appear reasonable. When priorities are set forth in social planning opposition is sure to follow from individuals who prefer a different set of priorities. (21) To ignore this aspect is to court disaster because opposing positions cannot be dealt with by working in secrecy--results of the plans will have to be revealed if not the plans themselves. The only other alternative is to use force to implement a plan. The art of politics is to know when to use or manipulate openness, secrecy, and force. To say the least, there is a very high uncertainty quotient in manipulating social realities to attain predetermined ends.

The responsibility to undertake planned social change is not a light one. Organizations and institutions have their trusted ways for meeting the unusual; as a matter of fact, sociologists use the ability of groups to use sets of formulas, codes, and other problem solving techniques as a measure of how "socialized" members of a group are. Guided or planned social change is concerned "with innovations that imply qualitative changes in norms, in behavior patterns, in individual and group relationships, in new perceptions of goals as well as means." (22) Perhaps there are situations in which change comes about by just doing more of what we always have done, by doing it more efficiently, in new ways with greater economy, or with clearer definitions of administrative responsibility. But this is just tinkering with bureaucracy, or to say it another way, a monitoring of bureaucracy to

prevent wastefulness. Social change is more than reproducing familiar patterns. The dominant aspect is innovation, that is, relating existing resources and facilities in new ways. The person or groups that wish to bring about change must do certain things to get the process started. Assumptions or beliefs must be reexamined about the entire situation and decided whether they are unwarranted or inconsistent with feelings and evaluations which the groups in the situation hold about themselves. As Schein summarizes:

> The first step in the change process then, is to develop alternate assumptions through a process of cognitive redefinition of the situation. This process involves (1) new definitions of terms in the semantic sense, (2) a broadening of perceptions or expanded consciousness which changes the frame of which objects are judged, and/or (3) new standards of evaluation and judgment. (23)

After we have gone through this conscious effort and know from our limited data what the priorities are and what the potential consequences are, we have a feeling for what is being changed and what the result of the change will be. To cause change we have to bring, as already noted, our existing environment into new relationships. There are only a certain number of things we can manipulate. Once the task has been defined, Leavitt has categorized the variables as actors, technology, and structures.

> Actors refers chiefly to people, but with the qualification that acts executed by people at some time or place need not remain exclusively in the human domain.
>
> Technology refers to direct problem-solving inventions like work measurement techniques or computers. Note that both machines and programs may be included in this category.
>
> Finally, structure means systems of communication, systems of authority (or other roles), and systems of work flows. (24)

No matter at what level or where we think we relate in the totality of society, the task requires comprehension of both the qualities of our social system and the process involved in adopting these systems to human needs. (25)

Evaluation of Change. How do we know whether observable differences in our social agencies have come about through the intervention of planning or whether the differences merely evolved? Actually, this question is unanswerable for the reason that change takes place in time; just as it is difficult to get the information needed to do rational planning, it is just as difficult to get the information to be sure that the objectives of the planning have been attained. Social change is an adaptive process requiring organizations to cooperate or to relate on new productive tasks. (26). Focusing on the processes and instruments of change does not provide an adequate picture of what has or is occurring in a social system. But there are some measures which can be used to identify social change; they may appear as artificial targets singled out for the sheer desire to be verbal, but they exist or else differences that are recognizable are merely rearrangements of the same thing.

First of all, social innovation is induced by change-oriented elites. There must be leadership and imagination. Sometimes the leader may be an individual already in a "power" position or it can be a faceless institution whose bureaucracy is to come forth with a new organization to solve our social imbalances. As we grow more complex, the more we seem to want to rely on our government or other large agencies to lead in social change. In any event, it is the large agencies which must support innovations to take root, gain acceptance, and become part of the normal course of events if the

change is to stabilize. "Changes occur from the top down, not from the bottom up, and they are guided by persons enjoying a measure of official authority or sanction." (27) Efforts at changes from the bottom up usually result in social distress, civil or revolutionary.

Planning change must start with existing organizations and institutions. New tasks must be mastered and the organizations and institutions gradually acquire expertise that is basic to social change. (28) Important differences depend upon centers of competence to develop which bring together and activate the skills required for the technical aspects of the change to continue. This in turn means that some formal organization has been established which represents and symbolizes the new experts or specialists to their clients and to society as a whole. (29) A final measure of whether social change has occurred and agencies have been created which develop support and complementarities in their environment is to observe the "linkages" that have been formed. Linkages are the interdependencies that have been formed between an agency and other parts of society. These linkages may become formalized in different ways depending upon the functions and goals of institutions. Several types of linkages have been described: (i) those which control the allocation of authority and resources so that an agency can function, such as regulatory agencies, (ii) those which supply input to, or supply output for, other agencies, either as a product or as information, (iii) those which supply standards or norms for institutions to follow or use, as for example accrediting agencies, (iv) those which cannot be clearly identified as belonging to the membership in a formal organization, but on whom many individuals depend, as for example our welfare agencies. (30)

In summary, social change or institution building suggest that induced change is warranted because of discrepancies or inadequacies in our social fabric. New organizations are planned from the existing systems and resources by producing some new mix of values, technologies, and actions. "Such alterations amount to organizational redesign; but their viability, even if changes only improve performance, depend upon their gradual institutionalization in the organization, in its linkages, and in its (social) environment." (31) Change can be planned, implemented and measured.

External Forces. The argument so far has been that the need for planned change comes about when there are recognizable dislocations in our social arrangements. Medical libraries as separate institutions began to change with the Flexnor Report of 1910. (32) Physician education was before 1910 controlled almost entirely by practitioners who made up the faculty of medical schools. Flexnor recommended that all medical schools be attached to academic institutions that had the means to teach the biomedical sciences. In other words, instead of the physician being an artisan, he had to first learn a scientific base in medicine. Medical education needed a new institution; it had to have the imprimatur of a university environment. This institutionalization was so successful that

> Medical education in the United States became so standardized during the half century between the Flexnor report and the 1960's that students could transfer from one school to another and hardly know they had moved. There were individual differences in methods of presentation and the roles played by such factors as research opportunity, frequency of examinations, and integration of courses, but the product was uniform. (33)

The same can be said for all other health professions, only the movement to gain academic status occurred later and still has not yet been completely turned over. Nursing, for example, had its professional beginnings in the late 19th Century in hospital environments, but by the 1920's schools began to be created in universities. The shift has not yet been completed, but nearly all diploma nursing schools now have at least an affiliatic with an academic institution. The growth of the paramedical professions has no precedent in any other academic discipline. The American Hospital Association recognizes 30 separate educational programs, other than physician internships and residencies, as being approved for hospital participation in 1972. (34) Each of these professional groups as they gain identity has brought about changes in our health care, research, and educational institutions and form a fascinating history of institutional change, but we shall only look at the further changes in physician education since 1960 to demonstrate how pressure arose to change our medical library organizations.

The Flexnor institutional model had the strength to absorb massive quantities of additional work by expansion of facilities after World War II. Unrest, however, was felt with this rapid expansion and a survey of medical schools was begun in 1948 sponsored by the American Medical Association and the Association of American Colleges. The final report published in 1953 demonstrated that stresses were occurring, but on the whole, the recommendations resulting from the survey were that existing practices only needed to be sharpened up with the final admonition that

> the greatest need of the medical schools today is clear, critical thought by men who are sincerely interested in the education of students and who have an understanding of educational principles, a knowledge of science, and a familiarity with social and economic trends. (35)

This chauvinism did not last because by 1960 the medical institutional establishment came under new scrutiny. For almost five years special studies looked at the entire health care and research system. The most far-reaching in concept was that of the President's Commission on Heart Disease, Cancer and Strokes because it provided the rationale for changing, by law, the idea that health care become a right of all citizens, not just a privilege of those who could afford it. (36) This required new concepts in education. Within the past eight years, five national reviews of physician education have been undertaken by the Association of American Medical Colleges (37), the American Medical Association (38), the Carnegie Commission on Higher Education (39), and the National Board of Medical Examiners (40).

The thrust of all these reports is essentially the same: new institutions must be built and within the traditions established by Flexnor in 1910. The argument goes something like this. Education has been centered in the university. Almost one-third of the research in medicine now occurs in medical schools with additional basic science research in other university-based schools. Although university medical centers have become loci of sophisticated diagnosis, treatment, education and research, "the centers' effect on the quality of care in [surrounding] communities is far less significant than it could be if an effective health care delivery system became a primary element of medical center concern." (41) The National Board of Medical Examiners report there are two critical areas of weakness apparent to medical educators and practicing physicians.

> ...first, the lack of interest of medical schools as chartered agencies of the public to assume responsibility for the complete formal education of physicians; and second, the spontaneous growth of multiple agencies each of which assumes only isolated fragments of a national responsibility. This results in an inability to create uniform and acceptable standards of performance in medical education as well as practice. (42)

The basic assumption throughout this era of examination, planning, and implementation of institutional building in health care, research, and education is that the university, supporting a medical center will serve as a linkage to the communities within its immediate region in accomplishing national standards to the right of equal access to health care.

Medical Libraries under Stress. The National Library of Medicine (NLM) received its present name and a new mission in 1956. As the former Armed Forces library nationwide services were given, but they were mainly bibliographic although it was a pioneer in interlibrary lending. The Dietrich-Bensen survey of 1953 mentioned above did not even note the Armed Forces Library as making any contribution to academic institutions, and insofar as the surveyors were concerned, the academic medical libraries were only in need of assistance primarily for additional space since they had noted a continued growth in fiscal support (43).

NLM took its mission seriously by establishing itself in a leadership role because the separate academic library institutions had neither the staff nor the stature to support a leadership function. This view was first articulated by NLM in 1965 by Cummings at the dedication of the Countway Library at Harvard.

> It is my view the time has come for rapid expansion of library resources locally. Continued dependence of the more than 6,000 medical libraries upon the National Library of Medicine would lead ultimately to the evolution of a monolithic medical library resource in this nation. For the convenience of the user, for the inspiration which the presence of the local library gives to its own community, for the serendipity which accompanies browsing and search, strong medical libraries must exist wherever there are strong biomedical interests. (44)

The leadership by NLM became very noticeable with the advent of the computer-based bibliographic system, MEDLARS. At the same time MEDLARS was being developed (in the late 1950's), data were gathered which provided Cummings with the assurance to make the statement quoted above. The first of these studies was contracted by NLM in 1962 to Bloomquist at Harvard. The thrust of the study was that medical libraries were under stress. Bloomquist blames the stress in that

> ...three factors have worked together to complicate the communication picture: The exponential growth of the scientific literature; the difference in the kind of requirement for communications due to rapid growth of multi-disciplinary research; the requirement for speed in dissemination and retrieval. (45)

The conclusion of the report was that medical libraries could not find sufficient funds from their own institutions and federal funds should be made available to support academic medical libraries at all levels.

As an interesting side note, Bloomquist's boss, Ralph Esterquest, was working for the New York State Library at the same time to determine what the medical library needs of the state were. It was Esterquest who stated the minimum size of an academic resource medical library to be 100,000 volumes with a current receipt of 1,500 journals. (46) This figure still plagues us today.

Other studies supported by various agencies undertook the data gathering to support the contention that new institutions or at least new linkages were necessary if our agencies were to meet the expectations of our nation's citizenry in health care. (47) The evidence seemed to justify action which was taken by NLM in submitting legislation requesting authority to provide assistance to libraries for (i) construction, (ii) training of librarians, (iii) research in the field of information sciences, (iv) resources, (v) development of regional libraries, (vi) publication and translation support. Considerable testimony was given to Congress, and the legislation came to be known as the Medical Library Assistance Act of 1965. No part of the Act ever received its full authorized funding, but it is still continuing in some areas with much the same intent.

We have here a history of planned social change of our medical library organization and system. Stress was being felt because of external pressures on library agencies in that they could not meet the expectations of researchers, educators, students, and practitioners. Studies were undertaken to provide sufficient data to establish priorities of action. Political realities were identified and leadership given to the community by NLM. Congress provided authoritative legislation for NLM to act as a change agent to forge new institutions and new organizational relationships.

What the general impact of the Medical Library Assistance Act has been is the subject of several papers. (48) Each of these, however, has dealt with externals in how funds were expended, number of institutions involved, and the like. I shall examine one effort at institution building, the regional medical library document delivery program, specifically the Kentucky,

Ohio, Michigan Regional Medical Library to determine if there is evidence of change and to what extent linkages have been formed to insure an institutionalization of the change.

Kentucky-Ohio-Michigan Regional Medical Library. Just what a regional medical library (RML) was to be was never clearly stated either in the Medical Library Assistance Act, nor does any of the testimony of the hearings give insight as to purpose. Regionalization by 1965 had become a trendy development cliche. It is clear from the wording of the law that only a certain number of libraries would be selected to serve as RML's and only those who could expand to provide supportive services to other libraries. Perhaps the concept was that the RML would be a small copy of NLM in program content; the first RML to be established, at Harvard, obviously had this functioning in mind. (49) As more RML's were formed, each developed a unique organization. Experimentation in administrative format was encouraged by NLM. There were no precedents for libraries supported by federal funds to provide service that crossed state lines that had the authority of federal law behind them. Operationally, RML's became identified as belonging either to the centralized group (50) or the decentralized group. (51) However the RML organized itself, both the law and administrative guidelines issued by NLM described a system in which medical resource libraries were to be rationalized into a hierarchical order under NLM's guidance. (52) KOMRML was the first decentralized RML to get established. What was envisaged was that the purpose of the RML was to establish new lines of communication among institutions in sharing resources. In the three states there were 10 medical resource libraries, all located in academic institutions. In establishing

a program, the resources and talents of all 10 institutions were to be utilized. There was to be sharing among the 10, but more important, there were close to 1000 biomedical libraries of varying sizes who were to be given access to the resources of all 10 academic libraries. If the requests for service could not be filled locally, then they would be referred to NLM for final processing. The Regional Medical Library was not a physically identifiable building, but a coordinating body whose function it was to monitor and attempt to regularize the linkages among institutions. In concept this view of KOMRML has been formulated into national policy by NLM with the hierarchy of institutions named and responsibilities defined. (53) The basic unit library is one located in any agency engaged in biomedical research, education, or health care and serves the ultimate consumer with biomedical information; for the most part these are hospitals. The second level is composed of libraries which have had the responsibility to preserve biomedical literature. These libraries have become identified as resource libraries which have the means to function as back-up for basic unit libraries. If they assist in the RML program, they have also been called participating libraries. The third level is the regional medical library which has been defined not so much a library with resources to dispense, but rather it has responsibility for planning a coordinated system for the provision of library services throughout the region indicating how resources fit into and link together the facilities of the region. NLM is naturally at the apex of the hierarchy who supports not only resource libraries in providing access to materials, but functions as the national network manager.

Schoolman summarized the RML program as having to

> ... solve a logistic problem on a nationwide basis. The National Library of Medicine believes that the optimal solution to this problem involves regional coordination both with regard to document delivery and future developments in information transfer. For effective implementation the professional librarian must contribute his expertise to the development and planning for network goals and not merely represent the interests of his own institution. Concern for the optimal development of service to the region must overshadow the more limited institutional perspective. (54)

The components of institution building as described earlier are all evident.

One of the legal requirements of the RML was to provide "free" interlibrary loans. Various administrative interpretations have been made during the years of the word "free". The first interpretation which was impossible to administer through centralized RML's was that existing patterns of lending among libraries were not to be disturbed yet any RML lending was to be done without cost to the requester. Why should a borrowing library pay a lending library for a service which it can obtain without cost from the RML? KOMRML in an effort to reduce an overload of requests from occurring decided that federal funds could only be used to support interlibrary loan activity above the number of requests supplied the previous year. In spite of the restriction and that it was the first year of a new program, this change in "rules" in providing interlibrary loans caused the participating libraries to increase their lending by 28% (See Table 1). NLM, as the national network manager, decided that this approach for monitoring interlibrary loan was inappropriate because it did not serve as the change mechanism that the law intended. The objective was to insure equal and total access to all biomedical literature irrespective of where the requester was located and the

TABLE I.

INTERLIBRARY DOCUMENT DELIVERY SERVICE
1968--1973

| YEAR | 1 PARTICIPATING LIBRARIES | 2 PERCENT INCREASE PER YEAR | 3 BASIC UNIT LIBRARIES | 4 PERCENT INCREASE PER YEAR | 5 TOTAL FOR REGION | 6 PERCENT INCREASE PER YEAR |
|---|---|---|---|---|---|---|
| 1968 | 33,450 | -- | --- | -- | (33,400) | -- |
| 1969 | 46,604 | 28 | --- | -- | (46,604) | -- |
| 1970 | 63,559 | 36 | 6,498 | -- | 70,057 | -- |
| 1971 | 74,823 | 18 | 10,001 | 54 | 84,824 | 21 |
| 1972 | 85,914 | 15 | 14,141 | 41 | 100,055 | 17 |
| 1973 | 89,828 | 5 | 21,836 | 54 | 111,664 | 12 |

service must be provided without direct cost to the requester. Removing all restrictions on requests resulted in a rapid increase in the number of items lent by the participating libraries, but federal funds were limited and hence could not support the subsidy of "free" service to any requester. A new (1971) directive allowed RML's to establish quotas, that is, an upper limit to the number of requests that could be supported from federal funds. Further, a new concept was introduced, the net lender. A library that lent more than it borrowed would continue to get subsidized service. A library that borrowed more than it lent was expected to pay at least some of the cost of borrowing. A cognitive redefinition of federal subsidy was made. Basic unit libraries broaden their perspectives by encouraging their peers to borrow from them to earn "credit" so that they could borrow freely from participating libraries. Within one year basic unit libraries lent 54% more than (Table 1) the previous year whereas the growth rate declined by one-half at the participating libraries.

The first year this net lender concept came into effect the KOMRML quota was still high: an institution could borrow up to 400 items. The quota declined each year as the number of requests increased because (i) more institutions learned of the service; (ii) librarians at basic unit libraries became more knowledgeable about the services; (iii) the availability of a dependable document delivery service caused it to be used more and (iv) federal funds decreased for the support of this service. The quota for 1974 has dropped to about 90 subsidized loans to net borrowers. What should be observed here is that during a five-year period the number of documents delivered through interlibrary loan at participating libraries less than doubled, and at basic unit levels the number of transactions increased by three times.

The data indicate that there has been change in the patterns of document delivery among institutions. As will be discussed below the mechanisms introduced were certainly a factor, but the linkages, if indeed they can be so identified, are not the same throughout the region. First, the observation can be made that more documents have been distributed, and thus the access to biomedical literature has certainly altered. Whether more documents in the hands of health professionals has improved research and health care cannot be concluded, but certainly the use of literature has increased with greater direct user contact at basic unit libraries because the securing of an inter-library loan requires that a specific request be made. A change also is evident from the lending among some basic units that a peer relationship of some kind is forming. Local union lists of biomedical serials have been created from Grand Rapids to Louisville wherever informal groups have formed to get them started. Perhaps one of the most difficult changes to institute in any agency is the reallocation of funds. Although quantitatively it may appear small when evened out over the region, the number of loans made within the region have increased by 30% since 1971, but the amount of federal subsidy has decreased by 10%. In other words for every subsidized loan in 1973 there were another 2.7 loans made which were paid from some local funds as compared to less than one when the quota system began.

The gross data of the region do not reveal the variety nor the stability of the linkages. Table 2 shows the lending pattern that developed in three KOMRML areas. Although the general goals and objectives are the same for the region, the methods used at participating libraries, the local leadership, and geography caused different interinstitutional linkages to be established by responding to the rules in a different way.

TABLE II.

## Lending By Participating and Basic Unit Libraries in Three KOMRML Service Areas

| | | Lending By Participating Library | Lending By Basic Unit |
|---|---|---|---|
| WSU | 1970 | 18,968 | 4,983 |
| | 1971 | 22,629 | 7,446 |
| | 1972 | 23,241 | 10,494 |
| | 1973 | 21,413 | 13,645 |
| UK | 1970 | 8,195 | 102 |
| | 1971 | 11,278 | 101 |
| | 1972 | 11,455 | 54 |
| | 1973 | 14,929 | 102 |
| CHSL | 1970 | 11,414 | 102 |
| | 1971 | 11,775 | 276 |
| | 1972 | 13,914 | 397 |
| | 1973 | 16,246 | 564 |

In the Wayne State University area, the effort was directed at making the basic unit libraries as independent as possible. As a consequence a number of basic unit libraries altered their lending policies . During this period a local organization of libraries in the Detroit area revitalized itself and one of the actions it took was to produce a local interlibrary loan code defining interinstitutional responsibilities which is signed as a formal agreement by librarians and by an administrator of the institution supporting the library. Certainly new communication channels have been established and a new kind of library system or network has formed. The revitalized organization is still informal and the agreements signed among institutions have no legal sanctions. What has occurred in the Detroit area has been to reveal the capability of various institutions to respond to demands for a particular service. Before the RML, this ability lay dormant and was not tested. More important now that it is being tested stresses are developing so that some kind of formal organization will have to be created which can perhaps institutionalize the communication channels now operating. The RML as a change agent has had an effect, and interinstitutional relations will not revert to previous patterns, but the situation has yet to stabilize.

In the University of Kentucky area the situation is quite different in that there are only 5 hospitals with more than 300 beds; there are not enough basic unit libraries large enough to have a collection of a size that could be useful in forming an interlibrary loan network. The pattern that developed around the Detroit area was not applicable in the predominantly rural eastern Kentucky. The University of Kentucky Health Sciences Library installed an in-WATTS line. This permitted individuals from clinics and

small hospitals to call in without charge to ask for assistance. In this area an electronic communication channel allowed the objectives of the RML to be fulfilled in quite another way. Many individuals and agencies now view the University of Kentucky Health Sciences Library in quite a different way. To carry out this work load, staff at the University of Kentucky had to acquire new expertise. Certainly an identity for individuals has resulted. The dependence on the University of Kentucky for library service is almost total. But there is also a new kind of interface between practitioner and his agency. Groups of basic unit institutions are now organizing to form legal entities through which the Health Sciences Library can work. (55) In the Kentucky area new expertise has developed, new communication channels established, and with a recognition that the existing inter-institution arrangements require that additional organizations be formed.

The Cleveland metropolitan area undoubtedly has the most stable organization which is close to or already institutionalized. At the same time KOMRML was being formulated in 1968, the Cleveland Health Sciences Library (CHSL) began an institutional membership for which certain services were to be provided. In this environment a situation exists in which a participating library took leadership in functioning as a change agent which was to some extent in conflict with the national program for change. As Cheshier points out:

> The most serious ramifications are those where conflict arises between the concept of "free" library service and the "fee-for-service" concept, or where national legislation provides for service to be "free" without including a mechanism for the development of fee-for-service arrangements. (56)

By June, 1973 the CHSL institutional membership had grown to 91. (57) CHSL's lending continues to increase. Lending among basic unit libraries has certainly increased, but this still only constitutes 3% of the area's interlibrary loan traffic. One of the important developments of this membership in a participating library which relates also to an RML program was the realization that payment for service was not a problem so long as those receiving the service could participate in making decisions about the services provided and as long as the services were of high caliber. The evolution of developing communication channels, the alterations of service priorities and the development of expertise within a resource library, with support generated by the consumer, and still participating within the framework of a national network leads one to believe that the Cleveland area has produced a stable organization for document delivery and is on its way to creating a new institutional complex.

## SUMMARY

Has the regional medical library program been instrumental in producing change for the betterment of society? As pointed out earlier, there are no answers to such questions. If the RML did not cause change, there is evidence that it was supportive of change. It is too early to establish whether full-fledged institution building has occurred, but certainly some of the attributes are evident. Leadership has been identified on both a national and local level. A bureaucracy is being formed in KOMRML programs that show evidence of stabilizing itself, albeit in different ways, but adequate to respond to some of the institutional stresses. The planning with the resultant policies and procedures that have been put forth have

utilized the facilities of existing agencies. New organizations have been formed with a cadre of experts developing with new skills and different complements of jobs. Communication channels have been established through which the expertise and services can be recognized and administered. Funding priorities have been altered in many institutions. There is undoubtedly a greater interdependence with a sense of participating in a new social enterprise.

Libraries as institutions have objectives and goals which must match social needs and values. Those libraries that provide access to biomedical literature decidedly have the responsibility to engage in social change. Those who work in medical libraries will for some years yet have to participate in institution building if they are to fulfill their professional responsibilities.

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